



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/762,722	01/22/2004	An-Gong Yeh	FA0790USDIV	5604

23906 7590 07/07/2005

E I DU PONT DE NEMOURS AND COMPANY
LEGAL PATENT RECORDS CENTER
BARLEY MILL PLAZA 25/1128
4417 LANCASTER PIKE
WILMINGTON, DE 19805

EXAMINER

LEUNG, JENNIFER A

ART UNIT	PAPER NUMBER
----------	--------------

1764

DATE MAILED: 07/07/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/762,722

Applicant(s)

YEH ET AL

Examiner

Jennifer A. Leung

Art Unit

1764

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 14-17 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 14-17 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 January 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|----------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>1-22-04</u> . | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

Specification

1. The disclosure is objected to because the priority should be updated to read as follows:

-- This application claims priority under 35 U.S.C. §119 and §120 from U.S. Application Serial No. 10/226,898 (filed August 23, 2002), now U.S. Patent No. 6,709,507, and U.S. Provisional Application Serial No. 60/314,337 (filed August 23, 2001), which is incorporated by reference herein for all purposes as if fully set forth.--

Appropriate correction is required.

Drawings

2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference character “2” (see FIG. 3) has been used to designate both an “agitator assembly” and a “vane”. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either “Replacement Sheet” or “New Sheet” pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Objections

3. The numbering of claims is not in accordance with 37 CFR 1.126 which requires the original numbering of the claims to be preserved throughout the prosecution. When claims are

Art Unit: 1764

canceled, the remaining claims must not be renumbered. When new claims are presented, they must be numbered consecutively beginning with the number next following the highest numbered claims previously presented (whether entered or not).

Misnumbered claims 1-4 have been renumbered as claims 14-17, respectively.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 14, 15 and 17 are rejected under 35 U.S.C. 102(e) as being anticipated by Yeh et al. (US 6,852,156).

Regarding claims 14 and 17, Yeh et al. (FIG. 1; column 2, line 61 to column 3, line 61) discloses an apparatus comprising a reactor (i.e., pre-mix tank 16) and an agitator assembly (i.e., impeller 21 driven by motor 25). Invoking 35 U.S.C. 112, sixth paragraph, Yeh et al. further discloses a “means for introducing in said reactor aqueous vapor entrained in a carrier gas”, (i.e., a dip tube, connected to ozone generator 10; column 5, lines 13-26), said means being structurally defined as a “tubular lance” and equivalents thereof, according to applicant’s specification, page 4, lines 26-31. As shown in FIG. 1, the means (i.e., the dip tube) has an opening (i.e., near the bottom of the reactor) positioned distally from an exhaust end (i.e., at the

Art Unit: 1764

top of the tank, leading to vent 23) of the reactor 16.

Regarding claim 15, Yeh et al. further discloses means for supplying ozone to said reactor 16 (i.e., ozone generator 10; FIG. 1).

Instant claims 14, 15 and 17 structurally read on the apparatus of Yeh et al.

5. Claims 14 and 17 are rejected under 35 U.S.C. 102(b) as being anticipated by Breneman et al. (US 4,690,810).

Breneman et al. (Figure; column 3, line 63 to column 4, line 39) discloses an apparatus comprising a reactor (i.e., vessel 10) and an agitator assembly (i.e., paddles 60,70 mounted on shaft 55 and driven by motor drive 58). Invoking 35 U.S.C. 112, sixth paragraph, Breneman further discloses a “means for introducing in said reactor aqueous vapor entrained in a carrier gas,” (i.e., lance 50), said means being structurally defined as a “tubular lance” and equivalents thereof, according to applicant’s specification, page 4, lines 26-31. As shown in the figure, the means 50 has an opening (i.e., located at 44) positioned distally from an exhaust end (i.e., located at 12, by way of pressure vent valve 14) of the reactor 10.

Instant claims 14 and 17 structurally read on the apparatus of Breneman et al.

6. Claims 14, 15 and 17 are rejected under 35 U.S.C. 102(b) as being anticipated by Hongo (JP 11-060979).

Hongo (FIG. 1; Abstract; Japanese machine translation) discloses an apparatus comprising a reactor (i.e., processing container 1) and an agitator assembly (i.e., stirring aerofoil 6, driven by motor 5). Invoking 35 U.S.C. 112, sixth paragraph, Hongo further discloses a “means for introducing in said reactor aqueous vapor entrained in a carrier gas”, (see FIG. 1; a conduit, unlabeled, leading from ozone generator 2 and extending into the reactor 1), said means

Art Unit: 1764

being structurally defined as a “tubular lance” and equivalents thereof, according to applicant’s specification, page 4, lines 26-31. As shown in FIG. 1, the means (i.e., the conduit) has an opening (i.e., as illustrated, on the right side of the reactor) positioned distally from an exhaust end of the reactor 1 (i.e., as illustrated, on the left side of the reactor).

Instant claims 14, 15 and 17 structurally read on the apparatus of Hongo.

7. Claims 14 and 15 are rejected under 35 U.S.C. 102(b) as being anticipated by Hagopian et al. (US 3,620,792).

Hagopian (column 5, lines 12-31) discloses an apparatus comprising a reactor (i.e., “a suitable reaction vessel”); means for introducing in said reactor aqueous vapor entrained in a carrier gas (i.e., “means for addition of reactants including means for metering the amount of gaseous treating agent to be employed”); and an agitator assembly (i.e., “means for agitation”). Hagopian also discloses means for supplying ozone to said reactor (i.e., as evidenced by, “... addition of ozone to the reactor is begun.” column 5, lines 21-25).

Instant claims 14 and 15 structurally read on the apparatus of Hagopian et al.

8. Claims 14 and 17 are rejected under 35 U.S.C. 102(b) as being anticipated by Farnell (US 3,508,882).

Farnell (FIG. 1; column 2, lines 3-46) discloses an apparatus comprising a reactor (i.e., autoclave 1) and an agitator assembly (i.e., stirrer 16). Invoking 35 U.S.C. 112, sixth paragraph, Farnell further discloses a “means for introducing in said reactor aqueous vapor entrained in a carrier gas”, (i.e., inlet 11), said means being structurally defined as a “tubular lance” and equivalents thereof, according to applicant’s specification, page 4, lines 26-31. The means 11 comprises a lance having an opening positioned distally from an exhaust end (i.e., vapor outlet

Art Unit: 1764

12) of said reactor (see Figure 1).

Instant claims 14 and 17 structurally read on the apparatus of Farnell.

9. Claim 14 is rejected under 35 U.S.C. 102(b) as being anticipated by McKinney (US 4,618,478).

McKinney (FIG. 1, 2; column 3, lines 18-55) discloses an apparatus comprising:
a reactor 1; means for introducing in said reactor 1 aqueous vapor entrained in a carrier gas (i.e., via inlets 16 and 18); and an agitator assembly (i.e., comprising blades 11, driven by motor M).

Instant claim 14 structurally reads on the apparatus of McKinney.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

10. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over McKinney (US 4,618,478) in view of Tokheim (US 1,167,536) or Bliss (US 5,037,210).

McKinney discloses said agitator assembly comprises a plurality of vanes (i.e., blades 11)

Art Unit: 1764

mounted on a flange (i.e., radial strut 12) rotatably positioned in said reactor 1. McKinney, however, is silent as to each said vane 11 having a coil affixed thereto such that said coils physically contact an inner wall of said reactor 1.

Tokheim (FIG. 1; page 2, lines 11-28) teaches an agitator assembly comprising a plurality of vanes (i.e., arms 15), wherein each vane 15 comprises a coil (i.e., coiled scrapers 19) affixed thereto such that the coils 19 physically contact the inner wall of a vessel (i.e., bottom 2).

Bliss (FIG. 1; column 2, line 49 to column 3, line 16) teaches an agitator assembly comprising a coil 5 that may physically contact the inner wall of a vessel (i.e., "Pivotal freedom provides benefit in allowing coil 5 to remain squarely seated against the mixing container bottom...").

It would have been obvious for one of ordinary skill in the art at the time the invention was made to provide a coil to each vane 11 in the apparatus of McKinney, on the basis of suitability for the intended use thereof, because the coils further facilitate a scraping action against the inner wall of the reactor, thereby loosening any sediment that deposits on the inner wall, as taught by Tokheim (page 2, lines 77-90), and, in the case of mixing powdered materials, the coils facilitate the dispersion of agglomerated materials, as taught by Bliss (column 1, lines 33-67).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jennifer A. Leung whose telephone number is (571) 272-1449. The examiner can normally be reached on 8:30 am - 5:30 pm M-F, every other Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

Art Unit: 1764

supervisor, Glenn A. Caldarola can be reached on (571) 272-1444. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Jennifer A. Leung
June 27, 2005 *JA*

Hien Tran
HIEN TRAN
PRIMARY EXAMINER